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STATISTICAL SERVICE
1444 NICOSIA

STRICTLY CONFIDENTIAL

SURVEY ON ICT USAGE AND E-COMMERCE IN ENTERPRISES 2011

	FOR OFFICIAL USE ONLY	
	S/N	
	Legal Status	
	Enterprise Size	
	NACE Rev 2	

GENERAL INFORMATION:

1. The aim of the survey is to collect data on ICT usage, Internet usage and electronic commerce in enterprises. These data are necessary for the implementation of policy programmes of both the Government and the Private Sector.

2. All requested information must be supplied by the IT manager of the enterprise. Regarding the enterprise's background information (Module X), these should be provided by the General Manager or by the Accountant or by any other person responsible.

3. An authorised employee of the Statistical Service will contact the IT manager of the enterprise by phone in order to arrange a visit for the completion of the questionnaire.

4. Definitions of the terms used in the questionnaire can be found in the glossary attached.

5. The reference period for the data is **January 2011**, unless the question refers to other specific period.

6. The collection of data is carried out in accordance with the Statistics Law 15(I)/2000. The Statistical Service is bound by the Statistics Law to treat all information obtained as **STRICTLY CONFIDENTIAL**. Your responses will be used solely for statistical purposes.

G. Chr. Georgiou
Director
Statistical Service

7 January, 2011

Module A: Use of computers and computer networks[1]

		Yes	No
A1.	**Did your enterprise use computers, in January 2011?** Computers include PCs, portable computers(e.g. laptop, notebook, nettop[2]), or other programmable multi-purpose devices[3] (PDA) or smartphones.	☐	☐ → Go to X1
A2.	**Please answer (a) or (b)** **a) How many persons employed used computers at least once a week, in January 2011?** If you can't provide this value, **b) Please indicate an estimate of the percentage of the number of persons employed who used computers at least once a week, in January 2011.**	☐☐☐☐ ☐☐☐ %	
A3.	**Did your enterprise have in use, in January 2011, third party open source[4] software in the following classes?** (i.e. with its source code available, no copyright cost, and the possibility to modify and/or(re) distribute it)	**Yes**	**No**
	a) Operating systems(s), e.g. Linux	☐	☐
	b) Internet browser[5] and office automation software, e.g. Mozilla, Chrome	☐	☐
	c) Office software[6], e.g. **Open**Office	☐	☐
	d) Web server[7] (e.g.Apache, Tomcat)	☐	☐
	e) Open source ERP[8] or CRM[9] applications for business process automation[10], e.g. OpenERP , Joomla, Ruby on Rails, MySQL	☐	☐
	f) Other open source, e.g. security software (e.g. Open SLL[11],SSH), e-learning platforms (e.g. Moodle), e-mail servers (e.g. Send Mail, Postfix)	☐	☐
A4.	**In January 2011, did the persons employed have access to personalised human recources services electronically?** e.g. working time recording system, request annual leave, view or download payslips, or other services	**Yes** ☐	**No** ☐

Module B: Access and use to the Internet[5]

(Scope: enterprises with computers)

		Yes	No
B1.	**Did your enterprise have access to the Internet, in January 2011?**	☐	☐ → Go to C1

B2.	**Did your enterprise have the following types of external connection to the Internet, in January 2011?**	**Yes**	**No**
	a) Traditional Modem (dial-up access over normal telephone line) or ISDN connection	☐	☐
	b) DSL[15] (xDSL[16], ADSL, SDSL etc) connection	☐	☐
	c) Other fixed internet connection, e.g. cable, leased line (e.g. E1 or E3 at level 1 and ATM at level 2), Frame Relay, Metro Ethernet, PLC - Powerline communication, etc fixed wireless connections	☐	☐
	d) Mobile broadband connection[17] (via at least 3G[18] modem or 3G hanset) using e.g. UMTS[19], CDMA2000[20] 1xEVDO[21], HSDPA[22]	☐	☐
	e) Other mobile connection using e.g. analogue mobile phone, GSM, GPRS, EDGE	☐	☐

B3.	**What was the maximum contracted download speed of the fastest Internet connection of your enterprise, in January 2011?**	
	a) less than 2 Mbit/s	☐
	b) at least 2 Mbit/s but less than 10Mbit/s	☐
	c) at least 10 Mbit/s but less than 30Mbit/s	☐
	d) at least 30 Mbit/s but less than 100Mbit/s	☐
	e) at least 100 Mbit/s	☐

B4.	**Please answer for January 2011** (answer (a) or (b))**:**	
	a) How many persons employed used computers with access to the internet at least once a week?	☐☐☐☐
	If you can't provide this value,	
	b) Please indicate an estimate of the percentage of the number of persons employed used computers with access to the internet at least once a week?	☐☐☐ %

B5.	**Please answer for January 2011** (answer (a) or (b))**:**	
	a) How many persons employed were provided with a portable device of at least 3G technology for accessing the Internet? e.g. via portable computer with modem or via hanset using e.g. UMTS, CDMA2000 1xEVDO, HSDPA, **while excluding GPRS**	☐☐☐☐
	If you can't provide this value,	
	b) Please indicate an estimate of the percentage of the number of persons employed who were provided with a portable device of at least 3G technology for accessing the internet?	☐☐☐ %

		Yes	No
B6.	**Did your enterprise have a Website[26] or Home Page, in January 2011?** **<u>If yes, give the address of your website</u>**	☐	☐ → Go to B8

		Yes	No
B7.	**Did the Website Or Home Page have any of the following, in January 2011?**		
a)	Online ordering or reservation or booking, e.g. shopping cart	☐	☐
b)	A privacy statement, a privacy seal or certification related to website safety	☐	☐
c)	Product catalogues or price lists	☐	☐
d)	Possibility for visitors to customise or design the products	☐	☐
e)	Order tracking available on line	☐	☐
f)	Personalised content in the website for regular/repeated visitors	☐	☐
g)	Advertisement of open job positions or online job application	☐	☐

Use of the Internet in contact with public authorities

(Scope: enterprises with access to the Internet)

Public authorities refer to both public srevices and administration activities, e.g. tax, customs, business registration, social security, public health, enviroment or commune administrations.
Public authorities can be at local, regional or national level.

		Yes	No
B8.	**During 2010, did your entrprise use the Internet to**		
a)	obtain information from public authorities[27] websites or home pages?	☐	☐
b)	obtain forms from public authorities´ websites or home pages? e.g. tax declaration	☐	☐
c)	return filled in forms electronically, e.g. forms for customs or VAT declaration	☐	☐
d)	treat an administrative procedure completely electronically without the need for paper work (including payment, if required), e.g. declaration, registration, authorisation request	☐	☐

		Yes	No
B9.	**During 2010, did your enterprise use the Internet to manage the following administrative procedures electronically?** (by returning filled in forms electronically)		
a)	Declaration of social contributions for the persons employed	☐	☐
b)	Declaration of corporate tax	☐	☐
c)	Declaration of VAT	☐	☐
d)	Declaration of customs/excise	☐	☐

B10. Do you consider any of the following reasons as limiting your electronic interaction with public authorities?	Yes	No
a) Concerns related to data[28] confidentiality and security	☐	☐
b) Electronic procedures are too complicated and/or too time consuming	☐	☐
c) Electronic procedures still require excange of paper mail or personal visits	☐	☐
d) Not aware of availability of electronic procedures	☐	☐

Public electronic Procurement[29] refers to the use of the Internet by enterprises to offer goods or services to public authorities at national level or in other EU countries. The eProcurement process in based on a number of stages from the notification process(online availibility of procurement notices and tender specifications) through tendering, awarding, to payment.

eTendering[30] is the stage of an eProcurement process dealing with the preparation and submission of tenders or proposals online; this includes bids submitted through open, restricted, or negotiated procedures, as well as Framework Agreeements and Dynamic Purchasing Systems (DPS[31]).

Submission of bibs by e-mail[12] is excluded .

B11. During 2010, did your enterprise use the Internet for accessing tender documents and specifications in electronic procurement systems of public authorities?	Yes	No
	☐	☐

B12. During 2010, did your enterprise use the Internet for offering goods or services in a public authorities´ electronic procurement systems (eTendering)?	Yes	No
a) in Cyprus	☐	☐
b) in other EU countries	☐	☐

If the answer is "Yes" to B12 a) →Go to C1
If the answer is "No" to B12 a) →Go to B13

B13. Was any of the following issues a reason for not offering goods or services in public authorities´electronic procurement systems (eTendering), during 2010?	Yes	No
a) Your enterprise does not sell to the public sector	☐	☐
b) Concerns related to confidentiality and security	☐	☐
c) Not aware of electronic tendering relevant to the enterprise	☐	☐
d) Other reasons	☐	☐

Module C: Sending / Receiving of messages [32] suitable for automatic processing to / from systems outside the enterprise

(Scope: enterprises with Computers)

Electronic transmission of data[28] suitable for automatic processing means:

-sending and/or receiving of messages(e.g. orders, invoices, payment transactions, product descriptions, transport documents, tax declarations)

-in an agreed or standard format which allows their automaic processing,

e.g. EDI[33], EDIFACT, ODETTE[34], TRADACOMS, XML[35], xCBL[36], cXML, ebXML

- to or from other enterprises, public authorities or financial institutions
- without the individual message being typed manually
- via any computer network

		Yes	No
C1.	**In January 2011, did your enterprise send or receive electronically such information in a format that allowed its automatic processing?**	☐	☐ → Go to D1

C2.	**Did your enterprise send or receive electronically such information for the following purposes?**	**Yes**	**No**
	a) Sending payment instructions to financial institutions	☐	☐
	b) Sending or receiving product information (e.g. catalogues,price lists)	☐	☐
	c) Sending or receiving transport documents (e.g. consignment notes)	☐	☐
	d) Sending or receiving data to/from public authorities (e.g. tax returns, statistical data, import or export declarations	☐	☐

Module D: Electronic invoicing

(Scope: enterprises with Computers)

An electronic invoice is an electronic transaction document that contains billing information.

Two different types of electronic invoices are distinguished:

- e-invoices[37] are electronic invoices in a **standart structure (suitable for automatic processing) that may be procesed automatically.** They may be directly excanged between suppliers and customers, via service operators or via an electronic banking system.

- Invoices in electronic format **not suitable for automatic processing.**

D1.	**In January 2011, did your enterprise send electronic invoices?**	**Yes**	**No**
	a) e-invoices in a standard structure suitable for automatic processing? e.g. EDI, UBL(38), XML,(please add national examples)	☐	☐
	b) Electronic invoices not suitable for automatic processing e.g. emails, email attachment in PDF format	☐	☐

		Yes	No
D2.	**In January 2011, did your enterprises receive e-invoices in a standard structure suitable for automatic processing?** e.g. EDI, UBL, XML	☐	☐

Module E: Automatic share of information within the enterprise

(Scope: enterprises with Computers)

Sharing information electronicaly and automatically between different functions of the enterprise means any of the following:

- Using **one single software application** to support the different functions of the entrprise, e.g. ERP (Enterprise Resource planning) software;

- **data linking between the software applications** that support the different functions of the enterprise;

- Using a **common database or data warehouse** accessed by the software applications that support the different functions of the enterprise;

- within this enterprise, sending or receiving electronically information that can processed automatically .

E1. In January 2011, when your enterprise received a sales order (either electronically or not), was the relevant information about it shared electronically and automatically with the software used for the following functions?

	Yes	No
a) Your management of inventory levels	☐	☐
b) Your accounting	☐	☐
c) Your production or services management	☐	☐
d) Your distribution management	☐	☐

E2. In January 2011, when your enterprise sent a purchase order (either electronically or not), was the relevant information about it shared electronically and automatically with the software used for the following functions?

	Yes	No
a) Your management of inventory levels	☐	☐
b) Your accounting	☐	☐

Module F: e-Commerce[39]

(Scope: enterprises outside the financial sector with Computers)

An **e-Commerce transaction** is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online.

e-commerce transactions **exclude** orders made bey manually typed e-mail messages.

e-Commerce

Web Sales[40]

Web sales are sales made via an online (web shop) or via web forms[41] on your enterprise´s website or extranet[42], regardless of how the web is accessed (computer, laptop,mobile phone).

F1.	**During 2010, did your enterprise receive orders for products or services placed via a website?** (excluding manually typed e-mails)?	**Yes** ☐	**No** ☐ →Go to F 4
F2.	**Please state for 2010 (answer (a) or (b):**		
	a) The value of the turnover resulting from orders received that were placed via your via a website (in monetary terms, excluding VAT)	€ ☐☐☐☐☐☐☐☐	
	If you can´t provide this value		
	b) An estimate of the percentage of the total turnover resulting from orders received that were placed via a website?	☐☐☐ %	

F3.	**In 2010, did your enterprise receive orders placed via a website by customers located in the following geografic areas?**	**Yes**	**No**
	a) Cyprus	☐	☐
	b) Other EU countries	☐	☐
	c) Rest of the world	☐	☐

EDI-type sales[43]

EDI-type sales are sales made via EDI-type messages. EDI (electronic data interchange) is used here as a generic term for sending or receiving business information in an agreed format which allows its automatic processing (e.g. EDIFACT, UBL, XML).

F4.	**During 2010, did your enterprise receive orders for products or services placed via EDI-type messages?**	**Yes** ☐	**No** ☐ →Go to F7
F5.	**Please state for 2010 (answer (a) or (b):**		
	a) The value of the turnover resulting from orders received that were placed via EDI-type messages. (in monetary terms, excluding VAT)	€ ☐☐☐☐☐☐☐☐	
	If you can´t provide this value,		
	b) An estimate of the percentage of the total turnover resulting from orders received that were placed via EDI-type messages.	☐☐☐ %	

F6.	**In 2010, did your enterprise receive orders placed via EDI-type messages by customers located in the following geografic areas?**	**Yes**	**No**
	a) Cyprus	☐	☐
	b) Other EU countries	☐	☐
	c) Rest of the world	☐	☐

E-Commerce Purchases

F7.	**During 2010, did your enterprise send orders for products or services via computer networks?** (via a website or EDI-type systems, and excluding manually typed e-mails)	**Yes** ☐	**No** ☐ → Go to G1
F8.	**During 2010, did your enterprise place orders for products or services via a website?**	**Yes** ☐	**No** ☐
F9.	**During 2010, did your entrprise place orders for products or services via EDI-type messages?**	**Yes** ☐	**No** ☐

F10. **Please state for 2010 (answer a, or b, or c)**

a) The percentage purchases resulted from orders placed via your website and/or EDI-type messages in relation to the total purchases value (in monetary terms, excluding VAT)	Less than 1% ☐
	1% or more and less than 5% ☐
	5% or more and less than 10% ☐
	10% or more and less than 25% ☐
	25% or more and less than 50% ☐
	50% or more and less than 75% ☐
or	75% or more ☐
b) Please state the value of the purchases resulted from orders placed via your website and/or EDI-type messages (in monetary terms, excluding VAT)	€ ☐☐☐☐☐☐☐☐
If you can´t provide this value **c) Please indicate an estimate of the percentage of the total purchases that resulted from orders placed electronically**	☐☐☐ %

F11.	**In 2010, did your enterprise place orders via a website or EDI-type messages to suppliers located in the following geographic areas?**	**Yes**	**No**
	a) Cyprus	☐	☐
	b) Other EU countries	☐	☐
	c) Rest of the world	☐	☐

Module G: Use of Radio Frequency Identification (RFID) technologies[44]

(Scope: enterprises with Computers)

Radio Frequency identification technologies (RFID) means:

- an automatic identification method to store and remotely retrieve data using RFID tags or transporters,
- a RFID tag is a device that can be applied to or incorporated into a product or object and transmits data via radiowaves.

		Yes	No
G1.	**In January 2011, did your enterprise make use of Radio Frequency Identification instruments?**	☐	☐ → Go to H1

G2. In January 2011, for what purposes did your enterprise use RFID?

		Yes	No
a)	Person identification or access control	☐	☐
b)	as part of the production and service delivery process (Monitoring and control of industrial production, supply chain and inventory tracking, service - maintenance - or asset management)	☐	☐
c)	for after-sales product identification, e.g. theft control, counterfeiting[45], allergen information	☐	☐

Module H: ICT and enviromental impact

(Scope: enterprises with Computers)

H1. During 2011, did your enterprise have in place any of the following policies?

		Yes	No
a)	Policies designed to reduce the ammount of paper used in printing or copying.	☐	☐
b)	Policies desinged to reduce the energy consumption of your ICT equipment. e.g. Computers and screens to be turned off, use of automated power down devices for the ICT equipment, use of multi-function peripherial imaging devices (printers, scanners, photocopiers) etc.	☐	☐
c)	Policies for using telephone, web or video conferencing instead of physical travel.	☐	☐

		Yes	No
H2.	**In January 2011, did your enterprise have in place any dedicated IT applications to reduce the energy consumption of business processes?** (including the optimisation of work routines, production processes, transport or logistics)	☐	☐
H3.	**In January 2011, did your enterprise provide to the persons employed remote access to the enterprise´s system, documents and applications?**	☐	☐

Module X: Background information		
X1.	**Main economic activity of the enterprise, during 2010** (description)	……...…… ……...…… ……...…… ……...……
X2.	**Average number of persons employed, during 2010**	⌊_⌊_⌊_⌊_⌋
X3.	**Total purchases of goods and services (in value terms, excluding VAT), for 2010**	**€** ⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌋
X4.	**Total turnover (in value terms, excluding VAT), for 2010**	**€** ⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌋

Module Z: General Information		
Z1.	**If you have any comments about the survey, please write down below:**	
	.....	
	.....	
	.....	
	.....	
Z2.	**Name of the person who answered the questionnaire:**	
	Position in the enterprise:	
	Telephone:	
	Fax:	
	E-mail:	
Z3.	**Name of the person who completed the questionnaire:**	
	Time needed to fill out this questionnaire:	
	Signature:	
	Date:	

TO BE COMPLETED BY THE ENUMERATOR:

Z4.	**Completion of the questionnaire::** a) The questionnaire is completed…… 1 b) The enterprise has closed…… 2 c) The enterprise can not be located…… 3 d) The enterprise refuses to cooperate…… 4 e) The enterprise was closed during the collection of the data…… 5 f) Merge with another enterprise…… 6 g) Other reasons for no completion …… 7 Please specify: …… …… ……

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Z5.	**Name of the person who checked the questionnaire:**

GLOSSARY

(1) **Internal computer network**	An internal computer network is a group of at least two computers connected together using a telecommunication system for the purpose of communicating and sharing resources within an enterprise. It typically connects personal computers, workstations, printers, servers, and other devices. It is used usually for internal file exchange between connected users; intra business communications (internal e-mail, internal web based interface etc), shared access to devices (printers etc) and other applications (databases) or for joint business processes. LAN (Local Area Network) - A network for communication between computers confined to a single building or in closely located group of buildings, permitting users to exchange data, share a common printer or master a common computer, etc.
(2) **Nettop**	A nettop is a small size, low-wattage computer designed for basic tasks such as surfing the Internet, accessing web-based applications, document processing, audio/video playback etc. The hardware specifications and processing power are usually reduced and hence make nettops less appropriate for running complex or resource intensive applications Source: http://en.wikipedia.org/wiki/Nettop
(3) **PDA**	A Personal Digital Assistant (PDA) is a handheld device that combines computing, telephone/fax, Internet and networking features. A typical PDA can function as a cellular phone, fax sender, Web browser and personal organizer. Source: http://www.webopedia.com/TERM/P/PDA.html
(4) **Open Source operating systems**	Open Source operating system software refers to computer software under an open Source license. An open-Source license is a copyright license for computer software that makes the Source code available under terms that allow for modification and redistribution without having to pay the original author. Such licenses may have additional restrictions such as a requirement to preserve the name of the authors and the copyright statement within the code.
(5) **Internet**	The Internet is a global system of interconnected computer networks that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. It is a network of networks that consists of millions of private, public, academic, business, and government networks of local to global scope that are linked by a broad array of electronic and optical networking technologies. The Internet carries a vast array of information resources and services, most notably the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support electronic mail. Source: http://en.wikipedia.org/wiki/Internet Relates to Internet Protocol based networks: www, Extranet over the Internet, EDI over the Internet, Internet-enabled mobile phones.
(6) **Office (automation) software**	Office (automation) software is a generic type of software comprising (grouped together) usually a word processing package, a spreadsheet, presentations' software etc.
(7) **Webserver**	A Web server is a computer program that delivers (serves) content, such as Web pages, using the Hypertext Transfer Protocol (HTTP), over the World Wide Web. The term Web server can also refer to the computer or virtual machine running the program. http://en.wikipedia.org/wiki/Web_server

[8] **ERP**	Enterprise Resource Planning (ERP) consists of one or of a set of software applications that integrate information and processes across the several business functions of the enterprise. Typically ERP integrates planning, procurement, sales, marketing, customer relationship, finance and human resources. ERP software can be customised or package software. These latter are single-vendor, enterprise wide, software packages, but they are built in a modular way allowing enterprises to customise the system to their specific activity implementing only some of those modules. ERP systems typically have the following characteristics: 1. are designed for client server environment (traditional or web-based); 2. integrate the majority of a business's processes; 3. process a large majority of an organization's transactions; 4. use enterprise-wide database that stores each piece of data only once; 5. allow access to the data in real time.
[9] **CRM**	Customer Relationship Management (CRM) is a management methodology which places the customer at the centre of the business activity, based in an intensive use of information technologies to collect, integrate, process and analyse information related to the customers. One can distinguish between: 1. Operational CRM – Integration of the front office business processes that are in contact with the customer 2. Analytical CRM – Analysis, through data mining, of the information available in the enterprise on its customers. This aims to gather in depth knowledge of the customer and how to answer to its needs.
[10] **Business process**	A business process or business method is a collection of related, structured activities or tasks that produce a specific service or product (serve a particular goal) for a particular customer or customers. Business processes can be of three types: *Management processes* (e.g. corporate governance, strategic management), *Operational processes* (e.g. purchasing, manufacturing, marketing and sales etc) and *Supporting processes* (e.g. accounting, recruitment, technical support etc). Source: http://en.wikipedia.org/wiki/Business_process
[11] **SSL/TLS**	Secure Sockets Layer (SSL) and its predecessor Transport Layer Security (TLS) are cryptographic protocols which provide secure communications on the Internet. SSL provides endpoint authentication and communications privacy over the Internet using cryptography. In typical use, only the server is authenticated (i.e. its identity is ensured) while the client remains unauthenticated; mutual authentication requires Public Key Infrastructure (PKI) deployment to clients. The protocols allow client/server applications to communicate in a way designed to prevent eavesdropping, tampering, and message forgery.
[12] **E-mail**	Electronic transmission of messages, including text and attachments, from one computer to another located within or outside of the organisation. This includes electronic mail by Internet or other computer networks.
[13] **Modem**	Device that modulates outgoing digital signals from a computer or other digital device to analogue signals for a conventional copper twisted pair telephone line and demodulates the incoming analogue signal and converts it to a digital signal for the digital device. (MODEM: MOdulator DEModulator)
[14] **ISDN**	Integrated Services Digital Network.

[15] **DSL**	Digital Subscriber Line (DSL) is a family of technologies that provides digital data transmission over the wires of a local telephone network. DSL is widely understood to mean Asymmetric Digital Subscriber Line (ADSL), the most commonly installed technical varieties of DSL. DSL service is delivered simultaneously with regular telephone on the same telephone line as it uses a higher frequency band that is separated by filtering. Source: http://en.wikipedia.org/wiki/DSL
[16] **xDSL**	Digital Subscriber Line. DSL technologies are designed to increase bandwidth available over standard copper telephone wires. Includes IDSL, HDSL, SDSL, ADSL, RADSL, VDSL, DSL-Lite.
[17] **Mobile broadband**	Mobile broadband (Mobile Internet) is the name used to describe various types of wireless high-speed Internet access through a portable modem, telephone or other device. (viz. 3G) Source: http://en.wikipedia.org/wiki/Mobile_broadband
[18] **3G, 3rd Generation**	3G or 3rd Generation, is a family of standards for mobile telecommunications (W-CDMA, CDMA2000, etc) defined by the International Telecommunication Union (ITU). 3G standards' aim is to unify the world's mobile computing devices through a single, worldwide radio transmission standard. 3G devices allow simultaneous use of speech and data services and higher data rates. Cellular mobile services were initially offered using analogue radio technologies and these were considered as the first generation systems (1G). 2G technology replaced analogue radio networks with digital ones (2G networks) in the 1990's. Source: http://en.wikipedia.org/wiki/; http://www.itu.int; http://www.three-g.net/3g_standards.html
[19] **UMTS**	Universal Mobile Telecommunications System (UMTS) is one of the third-generation (3G) mobile telecommunications technologies being developed within the ITU's (International Telecommunication Union) IMT-2000 framework (International Mobile Telecommunications-2000). It is a realisation of a new generation of broadband multi-media mobile telecommunications technology.
[20] **CDMA2000**	Code Division Multiple Access is a channel access method utilized by various radio communication technologies. CDMA2000 refers to the mobile phone standards which use CDMA as an underlying channel access method and is an ITU approved 3G standard (3G, UMTS). One of the basic concepts in data communication is the idea of allowing several transmitters to send information simultaneously over a single communication channel. This allows several users to share a bandwidth of different frequencies. This concept is called multiplexing. CDMA employs spread-spectrum technology and a special coding scheme (where each transmitter is assigned a code) to allow multiple users to be multiplexed over the same physical channel. By contrast, time division multiple access (TDMA) divides access by time, while frequency-division multiple access (FDMA) divides it by frequency. CDMA is a form of "spread-spectrum" signalling, since the modulated coded signal has a much higher data bandwidth than the data being communicated. Source: http://en.wikipedia.org/wiki/CDMA
[21] **EVDO (1xEVDO)**	Evolution-Data Optimized or Evolution-Data only, abbreviated as EV-DO or EVDO and often EV, is a telecommunications standard for the wireless transmission of data through radio signals, typically for broadband Internet access. It uses multiplexing techniques including code division multiple access (CDMA) as well as time division multiple access (TDMA) to maximize both individual user's throughput and the overall system throughput. It is standardized by 3rd Generation Partnership Project 2 (3GPP2) as part of the CDMA2000 family of standards and has been adopted by many mobile phone service providers around the world – particularly those previously employing CDMA networks. http://en.wikipedia.org/wiki/1xEVDO

[22] **HSDPA**	High-Speed Downlink Packet Access is an enhanced 3G (third generation) mobile telephony communications protocol in the High-Speed Packet Access (HSPA) family, also coined 3.5G, 3G+ or turbo 3G, which allows networks based on Universal Mobile Telecommunications System (UMTS) to have higher data transfer speeds and capacity. Source: http://en.wikipedia.org/wiki/HSDPA
[23] **GSM**	Global System for Mobile Communications. GSM is a digital cellular technology used for transmitting mobile voice and data services. It is the most popular standard for mobile telephone systems in the world. GSM differs from its predecessor technologies in that both signaling and speech channels are digital, and thus GSM is considered a second generation (2G) mobile phone system. Source: http://en.wikipedia.org/wiki/GSM
[24] **GPRS**	General Packet Radio Service is a very widely deployed wireless data service, available with most GSM networks. GPRS offers throughput rates of up to 40 kbit/s, so that users have a similar access speed to a dial-up modem, but with the convenience of being able to connect from almost anywhere. Source: http://www.gsmworld.com/technology/gprs.htm
[25] **EDGE**	Enhanced Dara rates for GSM technology represent further enhancements to GSM networks providing up to three times the data capacity of GPRS. EDGE networks rely on Time Division Multiple Access transmission (TDMA) and General Packet Radio Service (GPRS). Source: http://gsmworld.com/technology/edge.htm
[26] **Website**	Location on the World Wide Web identified by a Web address. Collection of Web files on a particular subject that includes a beginning file called a home page. Information is
[27] **Information**	1) Facts, data, or instructions in any medium or form. 2) The meaning that a human assigns to data by means of the known conventions used (Source: http://www.its.bldrdoc.gov/projects/devglossary/_information.html)
[28] **Data**	Representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means. Any representations such as characters or analogue quantities to which meaning is or might be assigned. Source: http://www.its.bldrdoc.gov/projects/devglossary/_data.html
[29] **Public Electronic Procurement eProcurement**	Public electronic Procurement refers to the use of the Internet by enterprises to offer goods or services to public authorities at national level or in other EU countries. The eProcurement process is based on a number of stages from the notification process (online availability of procurement notices and tender specifications) through tendering, awarding, to payment.
[30] **eTendering**	eTendering is the stage of an eProcurement process dealing with the preparation and submission of tenders or proposals online; this includes bids submitted through open, restricted, or negotiated procedures, as well as Framework Agreements and Dynamic Purchasing Systems (DPS).
[31] **DPS**	Dynamic Purchasing System. A completely electronic procedure which may be established by a contracting authority to purchase commonly used goods, works or services. It is limited in duration and open throughout its validity. Source: http://www.ogc.gov.uk/documents/Guide_dynamic_purchasing.pdf
[32] **Message**	Any thought or idea expressed briefly in a plain or secret language, prepared in a form suitable for transmission by any means of communication. Source: http://www.its.bldrdoc.gov/projects/devglossary/_message.html

(33)	**EDI, EDI-type**	Electronic Data Interchange (EDI) refers to the structured transmission of data or documents between organizations or enterprises by electronic means. It also refers specifically to a family of standards (EDI-type) and EDI-type messages which can be automatically processed. Source: http://en.wikipedia.org/wiki/Electronic_Data_Interchange
(34)	**Odette (standards, organisation)**	Odette International is an organisation, formed by the automotive industry for the automotive industry. It sets the standards for e-business communications, engineering data exchange and logistics management, which link the 4000 plus businesses in the European motor industry and their global trading partners. Source: http://www.odette.org/html/home.htm
(35)	**XML**	The Extensible Markup Language is a markup language for documents containing structured information. Structured information contains both content (words, pictures, etc.) and some indication of what role that content plays (for example, content in a section heading has a different meaning from content in a footnote, which means something different than content in a figure caption or content in a database table, etc.). Almost all documents have some structure. A markup language is a mechanism to identify structures in a document. The XML specification defines a standard way to add markup to documents. Source: http://www.xml.com/
(36)	**xCBL**	XML Common Business Library (xCBL) is the pre-eminent XML component library for business-to-business e-commerce. Source: http://www.xcbl.org/
(37)	**e-Invoice**	An e-invoice is an invoice where all data is in digital format and it can be processed automatically. A distinctive feature of an e-invoice is automation. E-invoice will be transferred automatically in inter-company invoicing from the invoice issuer's or service provider's system directly into the recipient's financial or other application. E-invoicing, comprises billing and payment information exchanged between the parties - businesses, the public sector, consumers - involved in commercial transactions, transmitted via the Internet or other electronic means. Source: http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/ The transmission protocol might be XML, EDI or other similar format.
(38)	**UBL**	Universal Business Language (UBL) is a library of standard electronic XML business documents such as purchase orders and invoices. UBL was developed by an OASIS Technical Committee with participation from a variety of industry data standards organizations. UBL is designed to plug directly into existing business, legal, auditing, and records management practices. It is designed to eliminate the re-keying of data in existing fax- and paper-based business correspondence and provide an entry point into electronic commerce for small and medium-sized businesses. Source: http://en.wikipedia.org/wiki/Universal_Business_Language
(39)	**Electronic commerce (e-commerce)**	An e-commerce transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organisations. E-commerce comprises orders made in Web pages, extranet or EDI and excludes orders made by telephone calls, facsimile, or manually typed e-mail. The type is defined by the method of making the order Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL

(40) **Sales via website (web sales)**	A part of the e-commerce activities, sales via website (web application) are orders made in an online store or filled in and sent by an electronic form on the www or extranet. Web sales are distinguished from EDI sales. In particular, the type of e-commerce transaction is defined by the method of making the order. This approach should mitigate the interpretation problems where both types, EDI and Web, are used in the process. An example is a situation where an order is made by the customer through a web application but the information is transmitted to the seller as an EDI-message. Here the type of selling application is however web, EDI is only a business application to transmit information about the sale. Web-sales can be done by mobile phones using an Internet-browser. Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL
(41) **Webform**	A webform on a web page allows a user to enter data that is sent to a server for processing. Webforms resemble paper forms because Internet users fill out the forms using checkboxes, radio buttons, or text fields. For example, webforms can be used to enter shipping or credit card data to order a product or can be used to retrieve data. Source: http://en.wikipedia.org/wiki/
(42) **Extranet**	A closed network that uses Internet protocols to securely share enterprise's information with suppliers, vendors, customers or other businesses partners. It can take the form of a secure extension of an Intranet that allows external users to access some parts of the enterprise's Intranet. It can also be a private part of the enterprise's website, where business partners can navigate after being authenticated in a login page.
(*) **Intranet**	An internal company communications network using Internet protocol allowing communications within an organisation.
(43) **EDI e-commerce**	Orders initiated with EDI. EDI (electronic data interchange) is an e-business tool for exchanging different kinds of business messages. EDI is here used as a generic term for sending or receiving business information in an agreed format which allows its automatic processing (e.g. EDIFACT, XML, etc.) and without the individual message being manually typed. “EDI e-commerce” is limited to EDI messages placing an order. Source: OECD, DSTI/ICCP/IIS(2009)5/FINAL
(44) **RFID**	Radio-frequency identification (RFID) is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. An RFID tag is an object that can be applied to or incorporated into a product for the purpose of identification using radiowaves. Some tags can be read from several meters away and beyond the line of sight of the reader.
(45) **Counterfeiting**	A counterfeit is an imitation, usually one that is made with the intent of fraudulently passing it off as genuine. Counterfeit products are often produced with the intent to take advantage of the established worth of the imitated product. The word counterfeit frequently describes both the forgeries of currency and documents, as well as the imitations of products or goods (e.g. clothing, software, pharmaceuticals, jeans, watches, electronics, etc.). Source: http://en.wikipedia.org/wiki/Counterfeiting